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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/661,116	09/12/2003	Martin A. Putnam	CC-0654	6433

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EXAMINER	
LAVARIAS, ARNEL C	

ART UNIT	PAPER NUMBER
2872	

DATE MAILED: 10/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/661,116	PUTNAM ET AL.	
	Examiner	Art Unit	
	Arnel C. Lavarias	2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *6/22/04,6/7/04,2/27/04,9/12/03*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9,13-15* is/are rejected.

7)☒ Claim(s) *10-12* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *9/12/03,2/27/04* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *6/22/04,6/7/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Applicant has not complied with one or more conditions for receiving the benefit of an earlier filing date under 35 U.S.C. 120 as follows:

An application in which the benefits of an earlier application are desired must contain *a specific reference to the prior application(s) in the first sentence of the specification or in an application data sheet (37 CFR 1.78(a)(2) and (a)(5))*. The specific reference to any prior nonprovisional application must include the relationship (i.e., continuation, divisional, or continuation-in-part) between the applications except when the reference is to a prior application of a CPA assigned the same application number.

Information Disclosure Statement

2. With respect to the information disclosure statement filed 6/22/04, citations on Page 4 were lined through since no copy of such documents was submitted. Further, the citation on Page 5 was lined through since that citation was improperly listed (i.e. publication number and associated identifiers do not match).

Drawings

3. The drawings were received on 9/12/03 as part of the original submission of the disclosure of the instant application.

4. The formal drawings were received on 2/27/04. These drawings are objected to for the following reason(s) as set forth below.

5. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description:

Figure 3- Reference numeral 806

Figure 26- Reference numeral 950

Figure 30- Reference numeral 89

Figure 32- Reference numeral 321

Figure 40- Reference numeral 630

Figure 50e- Reference numeral 576

Figure 53- Reference numeral 514.

6. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description:

Figure 10- Reference numeral 876

Figure 27- Reference numeral 203

Figure 50- Reference numeral 560.

7. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "8" has been used to designate both a scanning direction (as shown in Figure 10) and an identification element.

8. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "846" has been used to designate both a cage rod and a section (See Page 11, line 2).

9. The drawings are objected to because of the following informalities:

Figure 15- Reference numeral '88' should read '8'.

10. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

11. The abstract of the disclosure is objected to because of the following informalities:

Abstract, line 7- insert 'by' after 'manufactured'

Abstract, line 12- delete 'be'

Abstract, line 14- delete 'a'.

Correction is required. See MPEP § 608.01(b).

12. The disclosure is objected to because of the following informalities:

Page 1, lines 7-8, 10-11; Page 6, lines 23-24; Page 17, lines 4-5- appropriate publication serial numbers should be supplied

Page 10, line 10- '844with' should read '844 with'

Page 10, line 18- 'change' should read 'cage'

Page 10, line 27- delete 'In'

Page 12, line 2- 'ne' should read 'one'

Page 13, line 17- 'axially' should read 'axial'

Page 14, line 11- 'know' should read 'known'

Page 14, line 14- 'heat' should read 'heated'

Page 15, lines 17 and 18- 'vile' should read 'vial'

Page 16, line 7- 'taper' should read 'tape'

Page 16, line 12- 'masks' should read 'mask'

Page 25, line 20- '705' should read '703'

Page 25, line 26- 'undefracted' should read 'undiffracted'

Page 26, line 17- 'un-defracted' should read 'undiffracted'

Page 29, line 3- '452' should read '454'

Page 36, line 24- 'a' should read 'an'

Page 37, line 8- 'holy' should read 'holey'.

Appropriate correction is required.

Claim Objections

13. Claims 8-12 are objected to because of the following informalities:

Claims 8-9 recite the limitation "the wrapped substrate" in line of Claim 8 and lines 1-2 of Claim 9. There is insufficient antecedent basis for this limitation in the claim. Claim 12 is dependent on Claim 8, and hence inherits the deficiencies of Claim 8.

Claims 10-11 recite the limitation "the sheet material" in lines 2 and 3 of Claim 10 and line 2 of Claim 11. There is insufficient antecedent basis for this limitation in the claim. Claim 12 is dependent on Claims 10 and 11, and hence inherits the deficiencies of Claims 10 and 11.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

14. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

15. Claims 1-4, 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Atkins et al. (U.S. Patent No. 5745615).

Atkins et al. discloses a method for manufacturing an optical identification element (See for example Figure 4), the method comprising providing a substrate (See 55 in Figure 4); winding the substrate around a device to provide at least one grating writing section (See 56, 57 in Figure 4); writing at least one grating into the substrate disposed in grating writing section (See col. 5, lines 3-18); and splitting the substrate disposed in the grating writing section to form a plurality of optical identification elements (See col. 5, lines 3-18). Atkins et al. additionally discloses the substrate being a fiber having a core and a cladding (See 55 in Figure 4; col. 3, line 60-col. 4, line 18); the substrate being

photosensitive (See Abstract); stripping a buffer from the fiber (See col. 4, lines 13-36); and the device maintaining the grating writing section flat (See Figure 4).

Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

17. Claims 1-7, 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terao et al. (U.S. Patent No. 6174648) in view of Atkins et al.

Terao et al. discloses a method for manufacturing an optical identification element (See for example Figures 1, 9, 13), the method comprising providing a substrate (See 20 in Figure 1); winding the substrate around a device to provide at least one grating writing section (See 10 in Figure 1); and writing at least one grating into the substrate disposed in grating writing section (See Figure 1). Terao et al. additionally discloses the substrate being a fiber having a core and a cladding (See Figure 6); the substrate being photosensitive (See Abstract); stripping a buffer from the fiber (See col. 8, lines 8-14); the device maintaining the grating writing section flat (See Figures 1-3); the device providing a plurality of flat grating writing sections of wound substrate (See Figures 1-3); and gratings being written into a plurality of grating writing sections of wound substrate (See Figure 1, 9, 13; col. 8, line 6-col. 9, line 19). Terao et al. lacks splitting the substrate disposed in the grating writing section to form a plurality of optical identification

elements. However, such method step of splitting (i.e. cleaving or breaking) the optical fiber to create multiple Bragg grating elements is routine and well known in the art. For example, Atkins et al. similarly teaches a method for manufacturing an optical identification element (See for example Figure 4), the method comprising providing a substrate (See 55 in Figure 4); winding the substrate around a device to provide at least one grating writing section (See 56, 57 in Figure 4); writing at least one grating into the substrate disposed in grating writing section (See col. 5, lines 3-18); and splitting the substrate disposed in the grating writing section to form a plurality of optical identification elements (See col. 5, lines 3-18). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the method of Terao et al. further include the step of splitting the substrate disposed in the grating writing section to form a plurality of optical identification elements, as taught by Atkins et al., to take advantage of the cost savings and increased speed of manufacturing such Bragg gratings.

18. Claims 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terao et al. in view of Atkins et al. as applied to Claim 1 above, and further in view of Wakami et al. (U.S. Patent No. 6067392), of record.

Terao et al. in view of Atkins et al. discloses the invention as set forth above in Claim 1, except for the method further including bonding the wrapped substrate together to a sheet material. However, Wakami et al. teaches an optical fiber Bragg grating and method for manufacturing such a fiber Bragg grating (See for example Abstract; Figure 2), wherein after forming the Bragg gratings in the fiber, the fibers are placed in a V-

groove substrate, adhered, and a sheet of material is placed over the fibers (See for example Figures 7-8). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the method of Terao et al. in view of Atkins et al. further include bonding the wrapped substrate together to a sheet material, as taught by Wakami et al., to prevent movement of the fibers, as well as provide protection.

19. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Terao et al. in view of Atkins et al.

Terao et al. in view of Atkins et al. discloses the invention as set forth above in Claim 1. Terao et al. additionally discloses the device being disk or circular in shape (See 10 in Figures 1-2). Terao et al. in view of Atkins et al. lacks the device being polygonal shaped to provide a plurality of flat grating writing sections of wound substrate. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the device be polygonal in shape to provide a plurality of flat grating writing sections of wound substrate, since it has been held that a mere change in shape of an element is generally recognized as being within the level of ordinary skill in the art when the change in shape is not significant to the function of the combination. Further, one would have been motivated to select the shape of a polygon, such as a square, rectangle, triangle, pentagon, etc., for the purpose of reducing the size and/or weight of the device. *In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).*

20. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Terao et al. in view of Atkins et al. as applied to Claim 1 above, and further in view of Othonos et al.

(A. Othonos, X. Lee, R. M. Measures, 'Superimposed multiple Bragg gratings', Electronics Letters, vol. 30, no. 23, Nov. 10, 1994, pp. 1972-1974.).

Terao et al. in view of Atkins et al. discloses the invention as set forth above in Claim 1, except for the grating comprising a plurality of co-located gratings. However, writing multiple co-located or superimposed gratings in a photosensitive optical fiber is well known in the art. For example Othonos et al. teaches a conventional method for writing multiple, superimposed fiber Bragg gratings in a photosensitive optical fiber (See for example Introduction, Experiment section on Pages 1972-1973). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the grating in the method of Terao et al. in view of Atkins et al. comprise a plurality of co-located gratings, as taught by Othonos et al., for the purpose of cost and space savings by superimposing the gratings in the same location (e.g. less fiber is used), as well as take advantage of the additional multiplexing functionality provided by the superimposed grating structure.

Allowable Subject Matter

21. Claims 10-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

22. The following is a statement of reasons for the indication of allowable subject matter:

Claim 10 is allowable over the cited art of record for at least the reason that the cited art of record fails to teach or reasonably suggest a method of manufacturing an optical identification element, as generally set forth in Claims 1 and 8, and further including the method step that wherein the splitting of the substrate in the grating writing section further includes cutting the substrate bonded to the sheet material without cutting through the sheet material. Claims 11-12 are dependent on Claim 10, and hence are allowable for the same reasons Claim 10 is allowable.

Conclusion

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arnel C. Lavarias whose telephone number is 571-272-2315. The examiner can normally be reached on M-F 8:30 AM - 5 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on 571-272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Arnel C. Lavarias
10/4/04

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